

REMARKS

Favorable reconsideration of this application, in light of the preceding amendments and following discussion, is respectfully requested.

Claims 1-55 are pending in this application. Claims 1 and 44 are amended. Claims 4, 7-15, 19-43 and 47-55 are withdrawn from consideration. No claims have been added or cancelled by this amendment.

Applicants note with appreciation the Examiner's indication that certified copies of all priority documents have been received by the USPTO.

Applicants respectfully note that the present Office Action does not indicate that the drawings have been accepted by the USPTO. The Applicants respectfully request that the Examiner's next communication include an indication as to the acceptability of the filed drawings or as to any perceived deficiencies so that the Applicants may have a full and fair opportunity to submit appropriate amendments and/or corrections to the drawings.

Claim Rejections Under 35 U.S.C. § 112

Claims 1-3, 5, 6, 16-18 and 44-46 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. The Applicants respectfully traverse this rejection based on the following reasoning as detailed below.

In response to the above rejection, independent claim 1 is amended to recite, *inter alia*, "forming a pad on a semiconductor substrate; . . . forming a contact hole exposing the pad on the semiconductor substrate by patterning the second insulating layer, the oxidation preventing layer, and the first insulating layer, the oxidation preventing layer remaining interposed between the

contact hole and the bit lines.” Independent claim 4 is amended similar to amended independent claim 1.

Accordingly, Applicants respectfully submit that the rejected language of independent claims 1 and 44 has been deleted, and amended independent claims 1 and 44 are fully supported at least by Figures 6 and 9 and the description thereof in the Applicants’ specification.

Therefore, Applicants respectfully request the rejection of claims 1 and 44 and claims 2, 3, 5, 6, 16-18, 45 and 46 depending therefrom under 35 U.S.C. § 112, first paragraph, be withdrawn.

Claim Rejections Under 35 U.S.C. § 103

Claims 1, 2, 16-18 and 44-46 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the Examiner indicated Applicant Admitted Prior Art (Fig. 1, pages 1-2) in view of Chang et al. (U.S. Patent No. 6,025,247, herein Chang). The Applicants respectfully traverse this rejection for the reasons detailed below.

Independent claim 1 is amended to recite, *inter alia*, “forming a contact hole exposing the pad on the semiconductor substrate by patterning the second insulating layer, the oxidation preventing layer, and the first insulating layer, **the oxidation preventing layer remaining interposed between the contact hole and the bit lines.**” Applicants respectfully submit that Chang fails to disclose, teach or suggest at least the above-emphasized features of amended independent claim 1 and the similar features of amended independent claim 44.

In particular, Chang as illustrated in Fig. 2(h) forms a trench area 219 wherein at least a portion of the silicon nitride layer 217 is removed from the bit line 214. Therefore, Applicants

respectfully submit that silicon nitride layer 217 is not interposed between the bit line 214 and the trench area 219 after formation of the trench area 219.

Therefore, Applicants respectfully request that the rejection of claims 1, 2, 16-18 and 44-46 under 35 U.S.C. § 103(a) be withdrawn.

Further, Chang is directed to a method for manufacturing a capacitor structure of a dynamic memory cell having a high capacitance and a flat topography on a semiconductor device.¹

Applicants respectfully submit that Chang does not even recognize the problems described in the Applicants' specification with respect to conventional devices, much less a solution thereto. In particular, according to example embodiments of the present invention, bit lines may be prevented from being oxidized in the course of forming a dielectric layer, which may lower the conductivity of the bit lines.²

Further, the Office Action mailed September 30, 2005 on page 4, lines 6-11 merely states that "it would have been obvious to one having skill in the art at the time the invention was made to form the oxidation preventing layer (nitride layer) over the entire surface of the bit lines as taught by Chang et al. into the process of Applicant Admitted Prior Art in order to electrically insulate the conductive bit-line from other conductive structures and to use as an etching stop layer." The Office Action mailed September 30, 2005, however, does not present the necessary "convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references," *Ex parte* Clapp 227 USPQ 972,

¹ Chang, Abstract.

² Applicants' specification, page 7, lines 7-11.

973 (Bd. Pat. App. & Inter. 1985), and therefore, this rejection may not be properly maintained absent such reasoning.

Still further, Applicants respectfully submit that absent the use of impermissible hindsight reconstruction analysis, the claimed invention is not rendered obvious over the Examiner alleged Applicant Admitted Prior Art in view of Chang.

Claims 3, 5 and 6 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the Examiner alleged Applicant Admitted Prior Art in view of Chang as applied to claims 1 and 2 above, and further in view of Lu et al. (U.S. Patent No. 5, 595,928, herein Lu). Applicants respectfully traverse this rejection for the reasons detailed below.

Applicants respectfully submit that Lu fails to cure the deficiencies of Chang as described above with respect to amended independent claims 1 and 44.

Therefore, Applicants respectfully submit that claims 3, 5 and 6 are allowable over the Examiner alleged Applicant Admitted Prior Art, Chang, and Lu, either alone or in any proper combination, for at least the same reasons as discussed above with respect to independent claims 1 and 44.

Therefore, Applicants respectfully request that the rejection of claims 3, 5 and 6 under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1-3, 5-6, 16-18 and 44-46 in

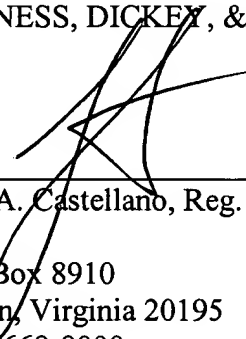
connection with the present application is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John A. Castellano at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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By 
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